BOOK REVIEWS

CALIFORNIA MEDICINE does not review all books sent to it by the publishers. A list of new books received is carried in the Advertising Section.

MEDICAL SPECIALTY TERMINOLOGY—X-Ray and Nuclear Medicine—Volume Two—Clara Gene Young, Retired Technical Editor and Writer (Medical), U.S. Civil Service, former Instructor, Medical Terminology, Good Samaritan Hospital, Phoenix; Joseph J. Likos, MD, Chief, Laboratory Service and Nuclear Medicine, Veterans Administration Hospital, Phoenix. The C. V. Mosby Company, 11830 Westline Industrial Drive, St. Louis, Mo. (63141), 1972. 283 pages, with 124 illustrations, $15.75.

A bona fide need has existed for a current compendium of medical specialty terminology in radiology. Such a book is now available, thanks to Ms. Young and Dr. Likos. Editors, secretaries, student technicians, and nurses will find this small book quickly answers many terminology questions in a terse and direct manner.

The x-ray terminology portion of the book is organized by systems, an organization that seems particularly appropriate to the subject. The nuclear medicine section consists of a brief introduction, a chapter on how radioisotopes are used in medicine, a chapter describing specific radiopharmaceutical applications, and a glossary of terminology pertaining to x-ray and nuclear science. It is only this 8-page glossary which directly addresses the topic of the book and is organized in the same way as the section on diagnostic radiology.

There are some other major organizational lapses, such as the inclusion of the major discussion of the thymus under endocrine rather than thoracic diseases, of the blood under cardiovascular and lymphatic systems.

Hopefully, future editions will be improved by including current neonatal terminology which is conspicuously absent. Entities such as idiopathic respiratory distress syndrome, bronchopulmonary dysplasia, meconium aspiration, transient tachypnea of the newborn, and erythrocythemia are not mentioned at all. Line drawings or labeled roentgenograms would have enhanced the text and are sorely needed, for in many cases the illustrations are so briefly described as to be of limited value. Some illustrations are excellent, others are most inadequate.

The review of nuclear medicine terminology was unfortunately brief. The *in vitro* assays (radioimmunoassays and displacement assays) were neglected. The only word listed to describe radionuclide imaging or scintigraphy was "scanning," an incorrect although frequently used designation for scintiphotography with a stationary detector device.

Bibliographical references are quite out of date in some chapters but are generally useful. For example, 80 percent of the references on the respiratory section are 10 to 15 years old.

In summary, this book will provide many people with a manageable source for terminology of diagnostic radiology despite many deficiencies.

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ARTIFICIAL ORGANS AND CARDIOPULMONARY SUPPORT SYSTEMS—Editors: Felix T. Rapaport, MD, Professor of Surgery, New York University Medical Center, New York; John P. Merrill, MD, Professor of Medicine, Harvard Medical School, Boston. Grune & Stratton, Inc., 111 Fifth Avenue, New York City (10003) 1972. 186 pages, $15.00.

This timely symposium provides the reader with a frank overview of the current status of artificial organs and support systems, together with an evaluation of clinical experiences by leading investigators in the field. With the vast proliferation of new information concerning artificial organ technology during the past five years, it has been difficult for most physicians to maintain more than a superficial familiarity with current developments. This volume should, therefore, be of interest not only to those engaged in organ transplantation but also to all physicians in clinical practice.

The first section of the book summarizes the history, current status, and anticipated future developments of the artificial kidney. The authors conclude that patients with chronic renal failure should be treated with dialysis at an early stage rather than after severe symptoms occur. Home dialysis is preferable to dialysis in a medical center both from the standpoint of the patient's well-being and cost. Future artificial kidneys probably will be smaller, more compact models that utilize atraumatic and nonthrombogenic membranes.

The second section of the book deals with the development and use of membrane oxygenators. Of the currently available membranes, silicone copolymers are the most effective. As with other artificial organs, damage to blood by contact with foreign materials and thrombogenesis remain major problems. Most currently used oxygenators are capable of exchanging 50 ml of oxygen per square meter per minute. A new oscillating (toroidal) flow oxygenator under study appears to have great promise in that it can exchange oxygen at four times the rate of previous oxygenators. Respiratory support systems have been used for several clinical patients, although the long-term survival has been low. The criteria for selection of patients for treatment remain somewhat unclear. Major problems still to be resolved include sepsis, damage to blood, and hemorrhage with prolonged heparinization.

In a section on artificial hearts, it is indicated that the auxiliary left ventricle has been discarded in favor of the total implantable mechanical heart. Both smooth and rough prosthetic surfaces are under study to decrease the problems of clotting. Thromboembolism and disseminated intravascular coagulation due to multiple small thromboemboli appear to produce diffuse clotting and a fibrinolytic syndrome. Inadequate cardiac output has been one of the most common and serious limitations.

Intraaortic balloon pumping with both permanent and temporary devices has been successful in a small number of patients and may be helpful in supporting a patient after a myocardial infarction or following cardiac surgery. External counter pulsation devices that utilize both positive and negative pressure have shown promise in supporting the failing circulatory system.

In a separate chapter, Salzman presents an excellent general review of the problems of clotting and of thrombogenic surfaces. Intact endothelium is the only real nonthrombogenic surface yet available.

The next series of chapters is devoted to alimentary and metabolic life-support techniques and details many of the new solutions, catheters, and pumps which have been used to reduce complications and increase efficiency.

Another section of the book deals with the treatment of liver failure by various techniques. Extracorporeal infusion of the intact liver in the pig or baboon has had some success; however, exchange transfusion may be